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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,831	06/26/2003	Mark Andrew Bickerstaff	Bickerstaff 7	7595

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CLAUDE R. NARCISSE, ESQ.
GREENBERG TRAURIG LLP
METLIFE BUILDING
200 PARK AVENUE
NEW YORK, NY 10166

EXAMINER

RIZK, SAMIR WADIE

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/608,831	BICKERSTAFF, MARK ANDREW	
	Examiner	Art Unit	
	Sam Rizk	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTIONS

- Claims 1-14 have been submitted for examination
- Claims 1-14 have been rejected

Drawings Objection

1. The drawings are objected to because the drawings are **hand drawn**.
Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed

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of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The objection to the drawings will not be held in abeyance.

2. Figures 1-4, 6A,6B and 7 should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification Objection

3. Page 13, line 26 makes a reference to **Fig. 1B**. Examiner notes the reference should be made to Fig. 1 instead , there is no Fig. 1B provided by the applicant. Correction is required. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. Regarding claims 6 and 9, the phrase "may or may not" renders the claim indefinite because it is unclear whether the limitations: N1 equals N2 or N1 does not equal N2 or N1 need not have relationship with N2. See MPEP § 2173.05(d). Corrective action is required. Claims 6 and 9 shall not be treated on the merits.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukumasa US publication no. 2003/0005388 (Hereinafter Fukumasa).

5. In regard to claim 1, Fukumasa teaches
- A decoder comprising:
 - a SISO device that operates as a PCCC decoder in a first mode of operation and as an SCCC decoder in a second mode of operation where the device operates as per at least one trellis using an in-line addressing technique to process information.
(Note: Claim 2, lines (4-10) and Fig 6, reference characters 21 and 24a in Fukumasa)
6. In regard to claim 2, Fukumasa teaches;

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- The processor of claim 1 where the device processes information in accordance with an algorithm.

(Note: Section [0035] in Fukumasa)

7. In regard to claim 3, Fukumasa teaches;

- The processor of claim 2 where the algorithm is a Log MAP algorithm and the SISO device is a Log MAP processor.

(Note: Sections [0010] and [0018] in Fukumasa)

8. In regard to Claim 4, Fukumasa teaches;

- The processor of claim 1 where in the first mode of operation the SISO device operates as a first SISO during one time period and operates as a second SISO device where the first and second SISO devices process information as per the same or different trellis.

(Note: Section [0035] in Fukumasa)

9. Claim 5 is rejected for the same reasons as claim 4.

10. Claims 6 –9 , 12-14 are rejected for the same reasons as claim 3.

11. In regard to claims 10 and 11, Fukumasa teaches;

- The processor of claim 1 where the in-line addressing technique uses a block of memory for retrieving and storing values of the states of the trellis as the device processes the received information.

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- The processor of claim 1 where information is processed using a portion of the states of the trellis to perform the in-line addressing technique during a clock cycle.

(Note: any of figures 2 or 4 or 5 in Fukumasa)

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Bickerstaff US publication No. 2002/0162074 teaches method and apparatus for path metric processing in telecommunications systems.
- Bickerstaff et al, A unified turbo/Viterbi Channel Decoder for 3GPP Mobile wireless in 0.18-um CMOS. Pages (1555-1564). IEEE Journal of Solid-State circuits, vol. 37, no. 11, November 2002. Copy is provided
- Nefedov US publication no. 2003/0118122 teaches Method and apparatus for channel coding and decoding for modulation scheme with memory.
- Amrani et al. US publication no. 2003/0101402 teaches Hard-Output iterative decoder.
- Sugimoto et al. US patent no. 6807239 teaches soft-in soft-out decoder used for iterative error correction decoder.

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- Yokokawa et al. US publication no. 2004/0025102 teaches encoding device and method and decoding device and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819.

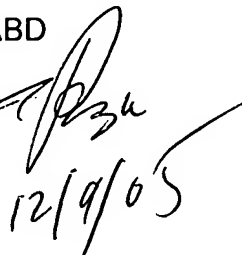
The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk, MSEE, ABD

Examiner

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12/9/05



JOSEPH TORRES
PRIMARY EXAMINER